

**I. List: 205.601 Synthetic substances allowed for use in organic crop production**

**II. Category Use**

(i) As plant disease control

**III. Committee Summary:** The renewal of hydrated lime was deferred for two reasons. First, the Crops Committee thought that more information and public comment was needed, and second, because of concern that there was no OFPA category that specifically allows its use.

Review of the Technical Evaluation Report shows that hydrated lime (calcium hydroxide, slaked lime, calcium hydrate, carboxide, lime water) is a synthetic produced by the slow addition of water to crushed or ground quicklime (calcium oxide), which is produced by burning various forms of limestone. The burning of limestone requires temperatures of 1,000° F, and the addition of water to the resulting quicklime generates considerable heat and steam. Calcium hydroxide may also be produced as a by-product of industrial processes, such as the generation of acetylene from calcium carbide. More than 90% of the burned lime produced in the US is used for industrial chemistry, such as steel manufacture, metallurgy, air and waste water pollution control, cement, glass, chemical and paper manufacture, and as an ingredient in pesticides, such as lime-sulfur and Bordeaux mixture. Calcium hydroxide ionizes readily in water, is slightly soluble in water, and reacts violently with acids.

Environmental concerns include the large amounts of energy required in production, the amount of dust created during various stages of mining and processing, and that by-product sources may be contaminated with heavy metals. With regard to human health, calcium hydroxide can severely irritate and / or burn the eyes, skin, mucous membranes, lungs, nose, and throat, along with vomiting, diarrhea, collapse and delayed esophageal damage if ingested. Used as intended as an aid in foliar plant disease control, calcium hydroxide would not have a detrimental effect on the soil or on soil organisms.

Most of the public comments were in favor of keeping hydrated lime on the National List. The manufacture of lime-sulfur, which many commentators said they could not farm organically without, requires the use of hydrated lime, as does the on-farm production of Bordeaux mixture (copper containing compound). Lime sulfur is used to control fungus, mites, and insects in apples, grapes, blueberries, cherries, and other tree and vine crops. Some commentators made the point that lime sulfur has been used for two hundred (200) years with no recorded loss of effectiveness (resistance). One commentator stated that no synthetic substances should be allowed in organic, but failed to show how these materials violate OFPA. In the opinion of this committee, hydrated lime should be considered a production aid, insofar as it is vital to the production of two exempted sulfur or copper containing materials in order to make these materials non-phytotoxic to plants.

**IV. Committee Recommendation:**

Recommendations based upon comments received – 205.601(i)

The Crops Committee recommends not renewing the following material to the National List:

**(i) As plant disease control.**

**(3) Hydrated lime.**

*Motion: Kevin Engelbert      Second: Jeff Moyer*

*Committee vote: 2-1*

***Board vote:***